Do changes in affect moderate the association between attachment anxiety and body dissatisfaction in children?

An experimental study by means of the Trier Social Stress Test.

Lien Goossens, PhD[1*]

Kim Van Durme, PhD[2]

Marie-Lotte Van Beveren, MA[1]

Laurence Claes, PhD[3]

[1] Ghent University, Department of Developmental, Personality and Social Psychology, Henri Dunantlaan 2, 9000 Gent, Belgium

[2] Artevelde University College, Department of Social Work, Sint-Annaplein 31, 9000 Gent, Belgium

[3] KULeuven, Department of Clinical Psychology, Tiensestraat 102, 3000 Leuven, Belgium

* Correspondence to: Lien Goossens, Department of Developmental, Personality and Social Psychology, Henri Dunantlaan 2, 9000 Gent, Belgium; E-mail: Lien.Goossens@UGent.be; Telephone ++32(0)92646421; Fax ++32(0)92646499.

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Abstract

Objective. Previous studies have already found a positive association between attachment and disordered eating attitudes and behaviors in children and adolescents. However, to our knowledge, no experimental studies have examined whether changes in negative and/or positive affect moderate the association between attachment anxiety and body dissatisfaction in children.

Method. A controlled laboratory setting was used to investigate whether changes in state negative and/or positive affect moderate the association between attachment anxiety and body satisfaction in a sample of 81 children (M_{age} = 11.74). The changes in state affect were caused by the exposure to a performance-related stressor using the Trier Social Stress Test for Children.

Results. Children with high levels of attachment anxiety reported a decrease in body satisfaction, but only if the TSST-C led to a decrease in their positive affect.

Discussion. Early detection and intervention programs may benefit from addressing insecure attachment and maladaptive emotion regulation in children.

Keywords: attachment anxiety, body dissatisfaction, Trier Social Stress Test, children

In Western society, awareness has grown regarding the prevalence of body dissatisfaction in children (Ricciardelli & McCabe, 2001). For example, researchers found that 35% of 9-year-old girls selected ideal body figures that were smaller than their own body figure (DeLeel, Hughes, Miller, Hipwell, & Theodore, 2009). Recently, researchers examined a sample of 9- to 14-year-olds and found that 50.5% of the girls and 35.9% of the boys were dissatisfied with their body (Dion et al., 2016). Prospective studies have demonstrated that body dissatisfaction in children can have several detrimental consequences such as low self-esteem, depression, eating disorder pathology, and obesity (Herpertz-Dahlmann et al., 2015; Neumark-Sztainer, Paxton, Hannan, Haines, & Story, 2006; Slane, Klump, McGue, & Iacono, 2014). Therefore, investigating factors that contribute to the development of body dissatisfaction in these young children is necessary as it may help us to identify components which are important to include and target in early detection and intervention programs (Patton, Beaujean, & Benedict, 2014).

According to the Interpersonal Vulnerability Model (Wilfley, Pike, & Striegel-Moore, 1997), difficulties in interpersonal functioning, and more specifically insecure attachment, increase a child's vulnerability to develop disordered eating attitudes and behaviors, such as body dissatisfaction. In past research, numerous studies have found evidence for a positive association between insecure attachment and disordered eating attitudes and behaviors in adults (for an overview see: Tasca & Balfour, 2014).

However, to date, only a limited number of studies have examined the associations between attachment and disordered eating attitudes and behaviors like body dissatisfaction in children and adolescents (see Jewell et al., 2016 for a review). Jewell et al. (2016), for example, underscores the robust cross-sectional association between insecure attachment and disordered eating attitudes and behaviors (like body dissatisfaction) in children and adolescents. However, it remains unclear how insecure attachment may increase youngsters' vulnerability for disordered eating attitudes and behaviors. Recently, in a study by Van Durme, Braet, and Goossens (2015), it was found that the association between insecure attachment and body dissatisfaction in 10 to 15-years-olds was mediated by the use of maladaptive emotion regulation strategies. This finding seems to indicate that difficulties in regulating affective states may help to explain the association between insecure attachment and body

image concerns in youth. Unfortunately, the cross-sectional nature of this study precludes causal conclusions, so other study designs are needed to more directly demonstrate why insecurely attached children are more vulnerable to develop body dissatisfaction, and whether this can be explained by changes in their affective states.

Previous studies have already shown a positive association between insecure attachment and negative affect/depressive symptoms in children and adolescents (Dujardin et al., 2016; Wilkinson, 2004). Moreover, a recent study in undergraduates found that elevated levels of attachment anxiety were not only associated with higher levels of state negative affect, but also with less state positive affect (Schiffrin, 2014). Additionally, increased negative affect has been found to be a robust predictor of body dissatisfaction in adolescents (Presnell, Bearman, & Stice, 2004), whereas decreased positive affect has been related to poorer social, physical, and psychological outcomes in undergraduate students cross-sectionally (Schiffrin, 2014). Since previous studies examining the role of affect in eating disorder symptoms usually focus on how changes in negative affect are associated with eating pathology (including body dissatisfaction), more research is needed to evaluate whether eating pathology may also be explained by changes in positive affect (Haedt-Matt & Keel, 2011). To our knowledge, no experimental studies to date have examined whether changes in negative and/or positive affect moderate the association between insecure attachment and body dissatisfaction in children.

Although two dimensions of insecure attachment can be distinguished from a dimensional view on attachment (Mikulincer & Shaver, 2007a, 2007b), most evidence from studies in the eating disorder domain point to a more pronounced role of the attachment anxiety dimension compared to the attachment avoidance dimension (Cash, Theriault, & Annis, 2004; Tereno, Soares, Martins, Celani, & Sarnpaio, 2008). Where the dimension of attachment anxiety refers to a strong need for closeness, concerns about the unavailability of others and fear of being rejected, the dimension of attachment avoidance refers to striving to independence and emotional distancing from others (Brennan, Clark, & Shaver, 1998). Also, in the study of Van Durme et al. (2015), results suggest a more prominent role for attachment anxiety than for attachment avoidance in the emotion regulation pathway to eating, weight, and shape concerns. This finding is in line with the study of Tasca et al. (2009) in which only

maladaptive emotion regulation appeared to mediate the association between attachment anxiety, but not attachment avoidance, and eating pathology.

The stronger effects of attachment anxiety that were found in previous literature may be explained by the specific maladaptive emotion regulation strategies that seem to be related with attachment anxiety. Where according to the emotion regulation model of attachment, attachment avoidance is assumed to be related to the use of deactivating emotion regulation strategies like emotional suppression, attachment anxiety is assumed to be related to the use of hyperactivating emotion regulation strategies (Brenning, Soenens, Braet, & Bosmans, 2011b; Shaver & Mikulincer, 2002). Due to this association between attachment anxiety and a higher tendency to be reactive to stressors, it can be assumed that children with higher levels of attachment anxiety will experience larger emotional changes when facing stress, making them more vulnerable for negative outcomes such as body dissatisfaction. In other words, when the attachment system gets activated under stressful circumstances in children high in attachment anxiety, their fear of being rejected may lead them to try everything to be accepted and loved by others.

The aim of the present study was to use a controlled laboratory setting to investigate whether changes in state negative and/or positive affect, caused by the exposure to a performance-related stressor using the Trier Social Stress Test for Children (TSST-C; Kirschbaum, Pirke, & Hellhammer, 1993), moderate the association between attachment anxiety and body dissatisfaction in 9- to 14-year-old children. It was hypothesized more specifically that increases in negative affect and/or decreases in positive affect after exposure to stress will cause decreases in body satisfaction in children with higher levels of attachment anxiety.

Method

Participants

In total, 82 children were recruited (M_{age}= 11.74, *SD* = 1.54) from primary and secondary schools. The sample was equally distributed regarding gender. However, one female participant was excluded from analyses due to an outlier for body satisfaction (mean +/- 3 SD). Of the remaining 81 participants (M_{age}= 11.78, SD = 1.52), i.e. 41 boys (Mage= 11.83, SD = 1.61) and 40 girls (Mage= 11.73, SD = 1.43), 81.4% came from intact two-parent families, 14.9% had divorced parents and 3.7%

came from a family in which one of the parents had died. The majority of the sample belonged to the upper middle (29.3%) or middle class (52.4%) socioeconomic status based on the parents' educational level and current occupation (Hollingshead, 1975). Only 1.2% was situated in the highest class and 6.1% in the lowest class.

Procedure

The current study was part of a larger project on inter- and intrapersonal factors affecting children's behaviour entitled "Environmental influences on the behaviour of boys and girls". The protocol of this project was approved by the ethical committee of our institution. Children between 9 and 14 years old were recruited through the use of flyers, which were distributed in several primary (4th to 6th grade) and secondary schools (1st and 2nd grade) as well as in youth organizations in [country deleted for peer review]. For participation, access to internet at home was required. Children (or parents) who were interested in participating in the current study could write their personal data (i.e., name, telephone number) on the flyer and return it to the participating school or youth organization. All leaflets were collected by a research assistant at the end of the recruitment-phase. In a second step, parents were personally contacted telephonically by a research assistant in order to provide them with information about the further procedure of the study. If they still agreed to participate, they received a secured internet link and a personal code with which the child could log on to complete an online questionnaire tool consisting of an online questionnaire battery and a 7-day daily diary. Since the diary data was collected for other study's aims within the project, this data was not included in the present study. On day 8, the day after completing the diary, the participants were invited to complete the second part of the study by taking part in our lab study, which took place at our university. The second part consisted of a pre-test, the administration of the Trier Social Stress Test for Children (Kirschbaum et al., 1993), and a post-test (see further for description of the lab study). Prior to the study, written consent from the parents and assent from the children were obtained. In the following a description is provided of the instruments that are relevant for current study's purpose.

Instruments

Adjusted Body Mass Index (Adjusted BMI). The height and weight of the child (objectively measured by a research assistant in the lab) allowed us to calculate the adjusted BMI by dividing the general BMI (kg/m^2) by the 50^{th} percentile of BMI for age and gender, and then multiplying this number by 100. The 50^{th} percentile is based upon Dutch norms from Fredriks, van Buuren, Wit, and Verloove-Vanhorick (2000). Based on the adjusted BMI score, weight status can be determined. An adjusted BMI between 85 and 120 indicates a normal weight, whereas a score below 85 indicates underweight and above 120 overweight (Van Mil & Van Winckel, 2001).

Attachment. All participants reported on their attachment towards their mother seven days before the lab appointment. The Experiences of Close Relationships-Revised-Child Version questionnaire (ECR-R-C; Brenning, Soenens, Braet, & Bosmans, 2011a) is an adaptation of the ECR questionnaire (Brennan et al., 1998) and was used to measure attachement towards the mother. The ECR was originally developed to measure adult romantic attachment towards the partner, while the ECR-R-C is a 36-item self-report questionnaire developed to assess a child's and early adolescent's attachment towards their primary caregiver. Since traditionally, mothers are regarded as primary caregivers and as the main attachment figures, we opted to only question about attachment towards mother. Moreover, the questionnaire in this study assessed individual differences with respect to attachment anxiety (e.g. "I'm worried that my mother does not really love me") and attachment avoidance (e.g. "It's not easy for me to tell my mother a lot about myself") towards the mother. The following instructions are given to the participants: "Below are a number of statements about your mother. Please indicate to which degree you agree with these statements, thereby picturing your mother as vividly as possible". All items are rated on a 7-point scale ranging from 1 (= "strongly disagree") to 7 (= "strongly agree"). The ECR-R-C has proven to be a reliable and valid instrument since the internal structure, construct validity and predictive validity (for depressive symptoms and emotion regulation) are adequate (Brenning et al., 2011). In the current study, the focus will be on attachment anxiety as previous research found a stronger link between attachment anxiety and eating pathology. Cronbach's alpha for Attachment Anxiety is .89.

Lab study. Participants were invited for the lab study at the faculty of psychology of our University. At the beginning of the lab study, participants were guided to a computer screen to start with the online administration of the pre-measures. These measures included 10 items about their current

mood state. These mood items were selected from the Positive and Negative Affect Scale for Children (PANAS-C; Laurent et al., 1999). The PANAS-C consists of 15 items comprising negative affect and 12 items comprising positive affect. However, in order to reduce the burden of having to answer too many questions, it was decided to assess participants' current mood state by selecting five items of the negative affect scale (sad, nervous, scared, lonely, and guilty) and five items of the positive affect scale (happy, energetic, cheerful, joyful, and calm). All mood items had to be rated on a 5-point Likert scale with 1 being 'very slightly or not at all' and 5 being 'extremely'. The pre- (and post-) measures also included a stress Visual Analogue Scale (VAS-scale) ranging from 0 'not at all stressed' to 10 'very stressed', allowing a manipulation check of whether the children experienced stress during the TSST-C. Next to these mood items, participants' present attitude/satisfaction towards body shape, i.e. body satisfaction, was also rated on a VAS-scale with 0 being 'not at all satisfied/pleased' and 10 being 'very satisfied/pleased'. This item was based on items of the weight and shape concerns subscale of the Children's Eating Disorder Examination Questionnaire (ChEDE-Q; Decaluwé & Braet, 1999). To administer the items, instructions were presented on the computer, but the research assistant (lead by the first and second author as main researchers) remained close by in case the children would have any questions.

In a next step, the TSST-C was conducted. The TSST-C is a validated child-version of the TSST (Kirschbaum et al., 1993). The TSST-C is a protocol for the induction of moderate psychological distress in laboratory settings, and has been proven to induce psychobiological stress (Buske-Kirschbaum et al., 1997). During the test, participants are asked to deliver a free speech and perform mental arithmetic in front of a camera.

The TSST-C was performed as follows: In the laboratory room, the research assistant was sitting behind a table, and a video camera and a microphone were installed. Next, the children received the beginning of a story. They were told that, after a preparation period of 5 minutes in another room, they should finish telling the story as exciting as possible in front of the research assistant and the camera. They were told that the records would be watched by other colleagues to judge how well they did and that they should try to perform better than the other children. The unfinished story used in this study was the following: "Yesterday my best friend Robert and I came home from school. Suddenly, we had the

idea to visit Mr. Greg who lived in the big old house located in the dark forest near our town. Mr. Greg was a crazy old man and our parents do not like the idea that we sometimes went visiting him. There was a rumor in town that there was a mystery about the old house. When we arrived at the house we were surprised that the door was open. Suddenly we heard a strange noise and cautiously, we entered the dark hall...". After the preparation period (5 minutes) the participants were escorted back to the laboratory room and were asked to stand behind the microphone, which was placed right in front of the research assistant and the camera and finish the story in a free speech of 5 minutes' duration. Whenever children finished the story in less than 5 minutes, they were asked to continue in a friendly, supportive way.

Next, the researcher asked the participant to serially subtract the number 7 from 758 (9 to 11 years) or the number 13 from 1023 (12 to 14 years) as fast and as accurately as possible. On every failure one member of the committee interfered "Stop, please start again." and the participant had to restart at 758 or 1023, respectively.

The total duration of the TSST-C was about 15 minutes. Afterwards, the children were again guided to the computer to complete the post-measures. These included the same current mood items as included in the pre-test, as well as the same item on body satisfaction. Similar to the pre-measures, the post- measures included a stress VAS scale, allowing a manipulation check of whether the children experienced stress during the free speech and the arithmetic tasks in front of the research assistant and the camera.

Finally, participants were instructed to wait in the lab for some minutes while the research assistant would go and check if all data were saved adequately. While waiting, they were allowed to eat and drink. Afterwards, the children had the opportunity to ask questions and the stressful situation was discussed. Every child was told that he or she had performed as well as the other participants and that the stern behavior was pretended in order to induce competitive conditions. The research assistant then escorted the participants back to his/her parents in the waiting room where they received a debriefing and two cinema tickets.

Data analyses

First, in order to investigate whether the TSST-C significantly induced stress in the participants, a repeated-measures ANOVA was used to conduct a manipulation check, with time as a within subject factor (stress prior to the TSST-C versus post). Second, to calculate the mood variables, positive affect scores (pre/post) were computed based on the five items that were selected from the established positive affect scale of the PANAS, and negative affect scores (pre/post) were computed based on the five items that were selected from the established negative affect scale of the PANAS. Reliability analysis revealed alpha levels of .69 (pre) and .83 (post) for the positive affect scale, and .22 (pre) and .57 (post) for the negative affects scale. Since the internal consistency coefficient was only acceptable to good for the positive affect scale, both pre and post to the TSST-C, it was decided to conduct further analyses using only this affect variable. In order to conduct our main analyses, we computed difference scores for the affect variable as well as for body satisfaction, by subtracting the pre-measure score from the post-measure score. By computing these difference scores, we took into account each participant's baseline level of affect and body dissatisfaction. A positive score on the affect variable consequently reflected an increase in state affect after the TSST-C, while a negative score reflected a decrease in state affect. A positive score on body satisfaction reflected an increase in body satisfaction after the TSST-C, while a negative score reflected a decrease in body satisfaction.

Lastly, to test the moderation effect, regression analyses on body satisfaction were conducted hierarchically, with attachment anxiety and the affect variable entered in Step 1, and the attachment anxiety x affect variable interaction entered in Step 2. The two-way interaction was interpreted using PROCESS, which is an add-on utility for SPSS for conditional process modelling (Hayes, 2013). Model one includes the option of testing a two-way interaction in predicting the dependent variable (DV). In the model the conditional effects of the independent variable (IV) on the DV can be formally compared with a statistical test. Alpha for these tests were set at .05. The difference score of body satisfaction was entered as the dependent variable (Y), attachment anxiety was entered in the independent variable (X) box, whereas the affect variable was put into the proposed moderator (W) box separately. We conducted bootstrapped (5000 resamples) tests of attachment anxiety at levels of the affect variable. The two-way interaction was interpreted by examining regions of significance for the IV. We also tested the simple slopes for each relation between attachment anxiety with body satisfaction at low (- 1 SD) and high

levels (+ 1 SD) of the affect variable. To ease interpretation, all variables were standardized prior to computing our analyses.

Results

Missing values

When looking at the data of the current sample, 2.74% of the data points were missing. Comparison of means and covariances of all questionnaire variables using Missing Completely At Random (MCAR) test (Little, 1988) revealed a normed χ^2 (χ^2=27.18/*df*=27) of 1.01, indicating that the data were likely missing at random (Bollen, 1989). As a consequence, missing values could be estimated and it was decided to estimate them following the expectation maximization (EM) algorithm available in SPSS (Schafer, 1997).

Manipulation check

The results of the repeated-measures ANOVA conducted on the stress VAS scale showed a significant main effect for the within subject factor 'time' ($F(1,80) = 97.86$, $p < .001$), indicating that the children's stress level was significantly higher at the post-test ($M = 5.11$, $SD = 2.86$), after conducting the TSST-C than prior to the TSST-C ($M = 2.40$, $SD = 2.04$).

Moderation of positive affect between attachment anxiety and body satisfaction

At baseline, there was no significant correlation between attachment anxiety and body satisfaction, $r = .02$, $p = .88$. Also, there was no significant effect of age, $F(1,78) = 2.82$, $p > .05$, and gender, $F(1,78) = 3.64$, $p > .05$, on the difference score of body satisfaction, so these variables did not have to be included as control variables in the moderation analyses. A hierarchical regression analysis was conducted to examine the role of positive affect (difference score; $M = -1.30$ and $\underline{SD} = 2.85$) as a moderator of the relationship between attachment anxiety ($M = 1.95$, $SD = .81$) and body satisfaction (difference score; $M = -0.18$, $SD = 1.87$). Results of this regression analysis are depicted in Table 1. The model of the first step with attachment anxiety and positive affect as predictors was not significant, $F(2, 80) = 1.99$, $p = .14$. However, when the interaction term was added (step 2), this resulted in a significant model, $F(3, 80) = 3.17$, $p = .03$, explaining 11% of variance in body satisfaction. In the latter model, the main effects of attachment anxiety (IV) and positive affect (moderator) were non-significant

(respectively t = -1.65, β = -.18, p = .10; t = 1.90, β = .21, p = .06). The interaction between attachment anxiety and positive affect was significant (t = 2.31, β = .26, p = .02) (see Figure 1). To further examine the significant two-way interaction, simple slopes for the relation between attachment anxiety with body satisfaction were inspected and showed to be significant at low (β = -.45, t = -2.80, p = .006) but not at mean (β = -.18, t = -1.64, p = .10) and high levels (β = .09, t = .58, p = .56) of positive affect. Furthermore, when considering the conditional effects of the interaction using the Johnson-Neyman technique provided by PROCESS (Hayes & Matthes, 2009), we found that the effect of the IV attachment anxiety transitioned from statistically significant to non-significant at a positive affect level with z-score -.15 (representing a difference score on positive affect of .51, with scores ranging from -17 to 3), p =.17. Figure 1 depicts the interaction, showing that children with high levels of attachment anxiety only reported a decrease in body satisfaction if the TSST-C led to a decrease in positive affect.

Discussion

It was the aim of the present study to investigate, in a controlled laboratory setting, whether changes in state affect after exposure to a performance-related stressor moderate the association between attachment anxiety and body satisfaction in children. In line with our hypothesis, results demonstrated that children with high levels of attachment anxiety reported a decrease in body satisfaction, but only if the TSST-C led to a decrease in positive affect. This finding is in line with the diathesis-stress vision on psychopathology (Ingram & Luxton, 2005), as it demonstrates that in children with higher levels of attachment anxiety, stressful circumstances seem to increase the risk for developing body dissatisfaction. This may be further explained by the fact that, in anxiously attached children, exposure to stress may lead them to use hyperactivating strategies such as rumination to regulate their emotions (Shaver & Mikulincer, 2002). Although positive affect has been proposed to break the cycle of rumination (Lyubomirsky, Boehm, Kasri, & Zehm, 2011) and even undo the negative physiological effects of negative emotions (Frederickson, Mancuso, Branigan, & Tugade, 2000), results of the present study demonstrate that, when levels of positive affect decrease after stress induction, the hyperactivating emotion regulation strategies may lose their buffering effect, and the fear of being rejected of these anxiously attached children's may make them to try everything to be accepted and loved by their environment. In a developmental period that is characterized by increasing importance of physical

appearance in self-esteem (Clay et al., 2005; Phares et al., 2004; Ricciardelli & McCabe, 2001), strategies like ruminating about unattainable beauty ideals that are imposed by the environment may increase body dissatisfaction. Thereby, this finding adds to the results of the few studies that have already examined the role of difficulties in emotion regulation to explain the association between insecure attachment and disordered eating attitudes and behaviors in children (Van Durme et al., 2015) and adults (Tasca et al., 2009). Furthermore this finding fits well within the assumptions of the emotion regulation model of attachment, proposed by Shaver and Mikulincer (2002).

Notably, the results also indicate that higher levels of attachment anxiety are only associated with decreases in body satisfaction when the exposure to stress leads to a decrease in positive affect. In other words, in those children who are characterized by higher levels of attachment anxiety but who experienced no decrease in positive affect after the exposure to stress, no decrease in body satisfaction was found. Interestingly, this finding shows that under stressful circumstances, some children seem to manage to maintain a certain degree of positive affect, despite their vulnerability, and that this may protect them against the development of body image problems. Moreover, since no main effect of changes in positive affect on changes in body satisfaction was found, results seem to indicate that decreases in positive affect may only increase the risk for body image problems in highly vulnerable children. Future research is needed to replicate these findings. Especially since previous research mainly focused on the role of negative affect for explaining disordered eating attitudes and behaviors, more research on whether and how positive affect is implicated in the explanation of this type of psychopathology is warranted (Haedt-Matt & Keel, 2011).

This study has several strengths. To our knowledge, this is the first study to examine whether the association between attachment and body dissatisfaction in children is moderated by changes in affect in a controlled laboratory setting. By manipulating mood changes, this study provided a more direct test of the findings from correlational studies (Tasca et al., 2009; Van Durme et al., 2015) that emotional reactivity mediates the association between attachment anxiety and disordered eating. In that way, the present study's design allows for causal inferences regarding the association between emotional changes due to stressors, which is speculated to be higher in anxiously attached children, and negative outcomes such as body dissatisfaction. Also, in the present study the TSST-C was used, which is a valid

protocol to induce stress in children (Kirschbaum et al., 1993) and as demonstrated by our manipulation check, the TSST-C protocol was effective in inducing stress to the participants in the present study. Finally, this study demonstrates the importance of including positive affect when examining emotion regulation and disordered eating attitudes and behaviors in children.

Clinically, our results show that children with elevated levels of attachment anxiety may lack strategies to adequately regulate stressors. More specifically, it seems that in these children, decreases in positive affect after stress induction increase the risk for changes in body satisfaction. If the findings of the current study can be replicated, early detection and intervention programs may have to address insecure attachment problems as well as emotion regulation skills in order to prevent children from developing a clinical eating disorder.

Several limitations have to be considered as well. First, as our sample consisted of primarily White children with a relatively high socio-economic background, future research should examine whether our findings can be generalized to samples with a more diverse ethnicity and socioeconomic background. Second, we only assessed attachment anxiety towards one attachment figure (namely the mother) since the participants already had to complete a large amount of questionnaires. However, there is some evidence that also attachment towards the father may be differently related to eating pathology in children (Goossens, Braet, Van Durme, Decaluwe, & Bosmans, 2012). Therefore, future studies may wish to include attachment towards the father as possible vulnerability factor as well. Third, the alpha coefficient for the negative affect variable was low, so we were able to only investigate the effect of changes in positive mood on body satisfaction. Therefore, future research is needed using a more reliable assessment of negative affect in order to examine whether changes in negative affect are also related to body dissatisfaction. Finally, experimental designs are often criticized as having low external validity. This might be due to the fact that only a brief exposure to the target stimuli (stress) takes place during the TSST-C and only an assessment of short-term (state) effects is conducted. Therefore, prospective studies in naturalistic settings are needed to examine the temporal associations between interpersonal problems (like insecure attachment), affective states and disordered eating attitudes and behaviors in children by means of for example Ecological Momentary Assessment.

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Table 1. *Summary of Hierarchical Regression Analysis for Variables Predicting Body Satisfaction*

Variable	*B*	*SE B*	*β*	*t*	*p*	
Model 1						$F(2, 80) = 1.99, p = .14$
Attachment anxiety	-.18	.11	-.18	-1.59	.12	
Positive affect	.15	.11	.15	1.37	.18	
Model 2						$F(3, 80) = 3.17, p = .03$
Attachment anxiety	-.18	.11	-.18	-1.65	.10	
Positive affect	.21	.11	.21	1.90	.06	
Attachment anxiety x Positive affect	.27	.12	.26	2.31	.02	

Note: Attachment anxiety x positive affect = interaction term; all variables were entered as standardized values; both the variable Positive affect (moderator) and the variable Body Satisfaction (outcome) reflect difference scores, with a positive score reflecting an increase in respectively state affect and/or body satisfaction after the stress induction

Figure 1. *The interaction effect between attachment anxiety and changes in positive affect (PA) after stress induction on changes in body satisfaction.*